



State of Utah

Department of  
Environmental Quality

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*Lieutenant Governor*

April 22, 2004

Mr. Dan Proctor  
Project Manager  
Unico Incorporated  
951 East 830 South  
Pleasant Grove, Utah 84062

Dear Mr. Proctor:

Subject: Deer Trail Mine Tailings Impoundment Pond No. 2 - Construction Permit

We have completed our review of plans and supporting information for a double lined tailings impoundment. This information was prepared by you and received on February 23, 2004.

The plans and supporting information as submitted, comply with the Utah Water Quality Rules, (R317, Utah Administrative Code). A Construction Permit is hereby issued as constituted by this letter, subject to the following conditions:

1. Any revisions or modifications to the approved plans and specifications must be submitted to the Division of Water Quality (the Division) for review and approval, before construction or implementation thereof.
2. The approved facilities must not be placed in service unless the Division has made a final inspection, and has authorized in writing to place the constructed facilities in service.
3. Weekly operating reports showing leakage rate in the leak detection sump, must be kept, and made available to the Division for review.

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APR 22 2004

DIV. OF OIL, GAS & MINING



Please consult with Mr. Lyle Stott of this Division for any assistance in this regard.

This project is for construction of a 0.3 acre tailings impoundment. The impoundment will be double lined with HDPE liners including leak detection. The milling process will use a surfactant to recover the metals, primarily zinc, but may include silver, gold and lead. The design criteria are as follows:

Waste Stream:  
Type.....Tailings containing surfactant  
Ore processing rate.....50 to 100 tons per day

Impoundment Sizing:  
Volume .....5 acre feet.  
Surface Area .....0.39 acres  
High Water Operating Depth.....20 feet  
Operating Freeboard .....2 feet  
Dikes  
Dike Width .....8 feet  
Interior Side Slope .....3:1 horizontal to vertical  
Exterior Side Slope .....2:1 horizontal to vertical  
Impoundment Bottom Slope.....5 percent minimum

Liner Design:  
Soil Foundation .....gravels silt sands covered with 2 feet clayey silt sands  
Depth of impoundment below ground surface.....2 feet  
Liners from bottom to top  
Prepared sub-base .....12-inches  
Liner - Under Sump only .....60 mil HDPE  
Synthetic liner .....60 mil HDPE  
Synthetic liner No. 2.....60 mil HDPE

Leak Detection

Sump

Fill Material .....gravel  
Volume x Porosity of impoundment No. 1.....480 gallons  
Pump Access Pipe .....4-inch diameter  
Leak Detection Probe .....Battery Operated Portable Level Alarm  
Allowable Leakage Rate is 80 gallons per day. There will be no discharge from the impoundment. All fluids will be recycled back to the mill.

Because of the low potential for contamination to ground water, as a result of the application of best available technology, the proposed impoundment is likely to have *de minimis* effect on ground water quality. Under these conditions, the project qualifies for permit-by-rule status under R317-6-6.2(A)(25).



Mr. Dan Proctor  
April 22, 2004  
Page 3 of 3

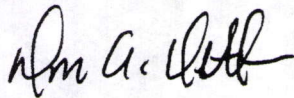
A set of approved plans and specifications is returned herewith bearing an imprint of our construction permit stamp. The stamped set must be kept available for examination and inspections to be conducted by the Division, or for resolution of any conflicts or discrepancies that may arise during construction or installation.

Please advise us of the beginning of construction. This will enable us to schedule periodic inspections. We request that a copy of record drawings be provided after the final inspection has been conducted by the Division, and completed works have been placed in service. This will enable us to keep our information accurate.

If we can be of further assistance, please contact Mr. Lyle Stott of my staff.

Sincerely,

Utah Water Quality Board



Don A. Ostler, P.E.  
Executive Secretary

DAO:LWS:lws/bjr/mhf

cc: Bruce Costa - Central Utah District Health Department  
Wayne Hedberg - Division of Oil Gas & Mining  
Roger Foisy - Department of Environmental Quality